INTRODUCTION

Intrathoracic lipomas can be divided into five categories, depending on their location: endobronchial lipomas, pulmonary parenchymal lipomas, pleural lipomas, mediastinal lipomas, and cardiac lipomas (1). Among them, endobronchial lipomas are relatively common, while pulmonary parenchymal lipomas are extremely rare (2). In a differential diagnosis of solitary pulmonary lesions, pulmonary parenchymal lipomas should be considered, despite their rarity.

CASE REPORT

A 65-year-old female patient was referred to our hospital due to abnormal finding on chest radiograph. Chest radiograph showed a round, well-circumscribed lesion located at the right lower lung zone. She had no respiratory symptom. Physical examination and laboratory tests were normal. She underwent chest computed tomography for further evaluation and revealed a 2.6 cm pleural based nodule showing fat density (approximately -100 Hounsfield unit) in the right middle lobe (Fig. 1). We considered the lesion as extrapulmonary lipoma, and recommended annual follow-up chest radiograph. However, the patient did not visit our hospital for 7 years. Chest radiograph obtained 7 years later showed 4.4 cm mass in the same location. The patient underwent chest computed tomography again for further evaluation. On CT scan, we identified 4.4 cm pleural based mass in the right middle lobe. The mass still showed fat attenuation, but additional soft tissue density was noted (Fig. 2). Thus, we considered the probability of malignant transformation of the mass into the liposarcoma. As such, we recommended a surgical removal of the mass.

The patient received video-assisted thoracoscopic surgery wedge resection with no postoperative complication. On endos-
Parenchymal lipomas have been reported, including this case, in medical literature (3-7). In the review of literature cases, 9 cases are men and 5 cases are women aged 26-71 years (males 44-71 years; females 26-62 years) with sizes ranging from 1 to 7 cm. There is no definite sexual predilection with peak incidence in the 5th and 6th decades (3-7).

Pleural lipomas are arising from the submesothelial layers of the visceral or parietal pleura. Like other pleural origin masses, the general features of pleural lipomas that have been described include a peripheral location abutting the chest wall, a sharp margin with the contiguous lung, and tapering or obtuse angles with rib cage or mediastinum (1). On the other hand, the origin of the peripherally located pulmonary parenchymal lipoma is controversial. Some believe that fatty tissue in the wall of the peripheral bronchi is the origin of the peripheral pulmonary parenchymal lipoma have been reported, including this case, in medical literature (3-7). In the review of literature cases, 9 cases are men and 5 cases are women aged 26-71 years (males 44-71 years; females 26-62 years) with sizes ranging from 1 to 7 cm. There is no definite sexual predilection with peak incidence in the 5th and 6th decades (3-7).

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DISCUSSION

Pulmonary parenchymal lipomas are rare benign tumors, contrary to endobronchial lipomas, which are relatively common (2). Over the 150-year period, only 15 cases of pulmonary parenchymal lipoma have been reported, including this case, in medical literature (3-7). In the review of literature cases, 9 cases are men and 5 cases are women aged 26-71 years (males 44-71 years; females 26-62 years) with sizes ranging from 1 to 7 cm. There is no definite sexual predilection with peak incidence in the 5th and 6th decades (3-7).

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enchymal lipomas, like the endobronchial one (3); while others, on the other hand, consider subpleural fat tissue as the origin (7). However, in our case, there was no demonstrable relationship with the peripheral bronchi or subpleural fat.

At first time, we thought the mass as extrapulmonary lipoma based on CT findings, due to its subpleural location and broad pleural base. During the operation, we found that the mass was enveloped by the lung parenchyma and visceral pleura. On the histologic examination, the mass was surrounded by the lung parenchyma and visceral pleura with inward displacement of some normal lung parenchyma. Thus, it could mimic an extrapulmonary mass.

Most peripheral pulmonary parenchymal lipomas are asymptomatic because of their peripheral location. Therefore, they are frequently found incidentally on routine radiographs. Although the majority of pulmonary parenchymal lipomas are incidental findings, larger one may cause symptoms due to mass effect and compression of adjacent structures. In our patient, respiratory symptom was not present despite relatively large size of the mass, probably due to its subpleural location. However, compressive atelectasis of adjacent lung was noted on a follow-up CT. According to the literatures, lipomas with necrosis usually present pain, and especially chest wall lipoma with necrosis could manifest as pleuritic chest pain (8). However, in this case, the patient did not present any symptom. We think that location of the mass was lung parenchyma; thus, it could not disturb the nervous system.

When we find peripherally located pulmonary masses containing fat, we should consider lipoma, liposarcoma or fibrolipomatous hamartoma (5). Among them, differential diagnosis of liposarcoma is very important because of its aggressiveness. CT findings suggesting liposarcoma are as follows; 1) Inhomogeneous attenuation with evidence of significant amounts of soft tissue within the fatty mass, 2) poor definition of adjacent structures, or 3) evidence of infiltration or invasion of adjacent structures (9).

However, in some lipomatous tumors, spectrum of appearances of fat necrosis seems to be difficult to distinguish from malignant changes (8). The radiologic appearance of fat necrosis in intrathoracic lipoma has not been well described. The mammographic features of fat necrosis, which are generally well known, include a speculated density and single or multiple lipid-filled cysts. Fat necrosis in the extremities has also been described as having various appearances on CT. Subcutaneous fat necrosis can appear as a well-defined hypodense mass with rim enhancement or as a globular mass with central fat density. In some patients with lipoma, fat necrosis shows well-defined linear speculated lesion or amorphous, cloudlike stranding (10). Fat necrosis sometimes seems to be difficult to differentiate from malignant changes, due to its various features. Imaging features that favor diagnosis of liposarcoma rather than fat necrosis are presence of globular or nodular nonadipose areas (8). In this case, we noted size increase and newly appeared nodular soft tissue within the fatty mass. Thus, we could not exclude the probability of liposarcomatous transformation of the mass. However, on histologic examination, the soft tissue density within the mass was proven as fat necrosis.

In this report, we present a case of pulmonary parenchymal lipoma showing growth and soft tissue within the mass, thus confused with liposarcoma. After radiologists obtain knowledge about growing lipoma mimicking liposarcoma, unnecessary operations can be reduced.

REFERENCES

성장하는 폐 변연부의 지방종: 증례 보고

조용석1·강미진1·강구현2·최수진3·김동원1·이지혜1·김재명1·배경은1·이한비1

지방종은 비교적 흔한 종양이지만 흉곽내의 지방종은 드물다. 흉곽내 지방종은 기관내 지방종, 폐실질 지방종, 흉막 지방종, 종격동 지방종과 심장 지방종으로 나뉜다. 그 중에서도 특히 폐실질 내에서 생기는 지방종은 매우 드물며 정확한 발생빈도도 보고되어 있지 않다. 본 논문에서 저자들은 7년에 걸쳐 발생한 폐실질 지방종을 보고하고자 한다. 현재까지의 문헌에는 약 14개의 폐실질 지방종이 증례 보고된 바 있으나, 이 증례와 같이 추적 관찰기간 동안에 지방종이 발생한 경우는 보고된 바가 없다.

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